

**AMENDMENTS TO THE CLAIMS**

Please amend the claims below by deleting items with a strikeout (i.e. ~~patent~~) or brackets / double brackets(i.e., [patent] or [[patent]]) and adding items with an underline (i.e. patent).

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Currently Amended) [[The]] A Turbine Generator Vibration Damper System [[of Claim 1,]] comprising:  
  
a pair of bearing fulcrum load wings mounted to a location on a bearing housing of a turbine-generator set that is susceptible to vibration;  
  
wherein each said bearing fulcrum load wings is foldable, wherein folding said wing results in tunability of vibration dampening capability.
6. (Currently Amended) [[The]] A Turbine Generator Vibration Damper System [[of Claim 1,]] comprising:

a pair of bearing fulcrum load wings mounted to a location on a bearing housing of a turbine-generator set that is susceptible to vibration;

wherein said pair of bearing fulcrum load wings are positioned at an angle relative to a lateral ~~[[horizontal]]~~ horizontal line of said bearing housing, said angle being changeable, and wherein said change of angle results in tunability of vibration dampening capability.

7. (Currently Amended) The Turbine Generator Vibration Damper System of Claim ~~[[1]]~~ 5, wherein each said bearing fulcrum load wing further comprises a ~~[[plurlatiy]]~~ plurality of ~~[[muliple]]~~ multiple wing elements capable functioning integrally as a tunable bearing fulcrum load wing.

8. (Currently Amended) ~~[[The]]~~ A Turbine Generator Vibration Damper System ~~[[of Claim 1,]]~~ comprising a pair of bearing fulcrum load wings mounted to a location on a bearing housing of a turbine-generator set that is susceptible to vibration, wherein said bearing fulcrum load wings further comprises:

a load element, said load element formed as a rigid body;

a wing;

a ~~[[fuxture]]~~ fixture unit for fixing said wing to said load element ~~[[is]]~~ in a movable fashion; and

attachment means for fixing said load to said bearing housing.

9. (Currently Amended) The Turbine Generator Vibration Damper System of Claim [[1]] 6,

[[wherein said bearing fulcrum load wings]] further [[comprises:

a load element, said load element formed as a rigid body;

a wing;

a [[fuxture]] fixture unit for fixing said wing to said load element [[is]] in a movable fashion; and

attachment means for fixing said load to said bearing housing]] comprising connecting means for firmly joining together at least two said load elements.

10. (Original) The Turbine Generator Vibration Damper System of Claim 9, further comprising control means for manipulating said attachment means in a manner to move said load element such as to actively tune said system to prevent vibration.

11. (Currently Amended) The Turbine Generator Vibration Damper System of Claim 10, wherein said control means for manipulating said attachment means in a manner to move said wing relatively said load element and to provide changes in lenght, width and weight of said wings such as to actively tune said system to prevent vibration is selected from the group comprising:

computer electronic control, mechanical control, electro-mechanical control; hydraulic control; electro-hydraulic control; and manual control.

12. (Currently Amended) ~~[[The]]~~ In a Turbine Generator [[Vibration Damper System of Claim 9, further comprising connecting means for firmly joining at least two said load elements]] set having a bearing housing, the improvement comprising a pair of bearing fulcrum load wings within said bearing housing at a location on said bearing housing that is susceptible to vibration, wherein said pair of bearing fulcrum load wings are positioned at an angle relative to a lateral horizontal line of said bearing housing, said angle is changeable, and wherein said change of angle results in tunability of vibration dampening capability.

13. (Withdrawn) A method for dampening vibration in a Turbine Generator set, said method comprising the steps:

affixing a pair of bearing fulcrum load wings to a location on a bearing housing of a turbine-generator set that is susceptible to vibration; and

tuning the characteristics of said bearing fulcrum load wings in a manner that results in tunability of vibration dampening capability.

14. (Withdrawn) The method of Claim 13, wherein the characteristic of said bearing fulcrum load wing that is tuned is the length of said bearing fulcrum load wing

15. (Withdrawn) The method of Claim 13, wherein the characteristic of said bearing fulcrum load wing that is tuned is selected from the group comprising:

the width of said bearing fulcrum load wing; the position of said bearing fulcrum load

wing; the weight of said bearing fulcrum load wing and ; and the relative angle between said bearing fulcrum load wings and a lateral horizontal line of said bearing housing.

16. (Withdrawn) The method of Claim 13, further comprising the step of actively tuning the characteristics of said bearing fulcrum load wings utilizing a computer control means for adjusting said characteristic.

17. (Withdrawn) The method of Claim 13, further comprising the step of actively tuning the characteristics of said bearing fulcrum load wings utilizing means for adjusting said characteristic selected from the group comprising:

computer electronic control, mechanical control, electro-mechanical control; hydraulic control; electro-hydraulic control; and manual control.

18. (Currently Amended) In a turbine generator set having a bearing housing, the improvement comprising forming at least one bearing fulcrum load wing within said bearing housing at a location on said bearing housing that is ~~[[suseptible]]~~ susceptible to vibration, wherein each said bearing fulcrum load wings is foldable, wherein the characteristics of each said bearing fulcrum load wings is changeable by folding, and wherein folding said wing results into tunability of vibration dampening capability.

19. (Currently Amended) In the turbine generator set of Claim 18, wherein ~~[[wherein]]~~ the

characteristics of each said bearing fulcrum load wings is changeable by folding, wherein said folding changes in said characteristics result in tunability of vibration dampening capability.

20. (Canceled)

21. (Canceled)

22. (New) In the turbine generator set of Claim 18, wherein said characteristics changed by folding are selected from the group comprising: length, width, weight, shape, position, relative angle between said bearing fulcrum load wings and a lateral horizontal line of said bearing housing; flexibility of wings.

23. (New) In the turbine generator set of Claim 18, the improvement further comprising control means for manipulating an attachment means in a manner to move said wing relatively said load element such as to actively tune said system to prevent vibration.

24. (New) In the turbine generator set of Claim 23, the improvement further comprising wherein said control means for manipulating said attachment means in a manner to provide folding of said wings and to provide changes in length, width and weight of said wings such as to actively tune said system to prevent vibration is selected from the group comprising:

computer electronic control, mechanical control, electro-mechanical control, hydraulic control, electro-hydraulic control; and manual control.

25. (New) The Turbine Generator Vibration Damper System of Claim 5, wherein each said bearing fulcrum load wings is changeable in length, width, or weight, wherein changes in any said length, width or weight result in tunability of vibration dampening capability.

26. (New) The Turbine Generator Vibration Damper System of Claim 6, wherein each said bearing fulcrum load wings is changeable in length, width, or weight, wherein changes in any said length, width or weight at an angle relative to a lateral horizontal line of said bearing housing, result in tunability of vibration dampening capability.

27. (New) In the turbine generator set of Claim 26, wherein said characteristics are selected from the group comprising: length, width, weight, shape, position, relative angle between said bearing fulcrum load wings and a lateral horizontal line of said bearing housing, and flexibility of wings.

28. (New) The Turbine Generator Vibration Damper System of Claim 6, wherein each said bearing fulcrum load wing further comprises a plurality of multiple wing elements functioning integrally as a tunable bearing fulcrum load wing.

**AMENDMENTS TO THE SPECIFICATION**

Please amend the specification paragraphs referenced below by deleting items with a strikeout (i.e. ~~patent~~) or brackets / double brackets (i.e., [patent] or [[patent]]) and adding items with an underline (i.e. patent).

**On Page 4, paragraph 1:**

U.S. Patent No. 6,112,869, issued in the name of Krause et al, ~~describes~~ describes a force transmitting apparatus having an external damper.

**On Page 7, second paragraph:**

Nevertheless, presently practicing methods of removal of a beyond-normal vibration at T-G-Ss, that ~~occures~~ occurs within its starting or/and common-mode operations processes, have a concern with the zone(s) of the rotor(s) muff(s), but not bearing(s).

**On page 7, last paragraph through page 8, first paragraph:**

It is common that this balancing includes loading (with the small bodies – special weights of known mass – in the specially calculated place on a body of the rotor half-muff) or/and unloading this half-muff in the special place on its body. Loading is ordinary carried out by fixing the weight(s) (with welding, joining, etc.) on a body of the rotor half-muff. Unloading is ordinary carried out by cutting the weight(s) (or picking, burning, hollowing, ~~gloving~~ grooving, etc. the weight(s) or body metal) off a body of the rotor half-muff.



On page 9, last paragraph:

An advantage of the ~~present invention~~ present invention is that removal of vibration does not

On page 10, second to last paragraph:

FIG. 2A is a front elevational view of a principal scheme of application of the present invention upon ~~presently~~ presently existing T-G-Ss;

On page 11, paragraph 6:

FIG. 7 is a ~~perspective~~ perspective view of the B-F-L-Ws for removal of beyond-normal vibrations in super-wide diapasons;

On page 11, paragraph 9

FIG. 10 depicts ~~varous~~ various configurations for the wings of the B-F-L-Ws;

On page 12, paragraph 1-2:

FIG. 13 is a ~~perspective~~ perspective view of the installation of the B-F-L-Ws with fixation which not requires replacement of the standard bolts of bearing-fulcrum;

FIG. 14 is a ~~pespective~~ perspective view showing variants of units for changing the length of wings of the B-F-L-Ws;

On page 15, second paragraph:

FIG. 41 is a ~~perspective~~ perspective view showing variants of simple changings of the construction of bearing(s)-fulcrum (or the form of its upper cover) in the future designed T-G-Ss to be adapted for use of the B-F-L-Ws method -- removal of vibrations at T-G-Ss without stopping their generating electricity / being in operation;

On page 16, first two paragraphs:

produced vibrations in an active or "real time" fashion. As seen best in FIG. 2A-2B, it can be seen that the static and dynamic components that would form the Turbine Generator Vibration Damper System include the loads 101 and the wings 102 that may be simple or changeable in length, width, weight, folding, multiply, etc. The fixture units 103 for fixing the loads to the case of the bearing-fulcrum ~~403~~ and the fixture units for ~~fixing the wings to and turning the wings around the load 104 (or to the joint-unit) utilize connecting arm 105.~~ and the fixture units for fixing the wings to and turning the wings around the load (or to the joint-unit), utilize connecting arm 104 with the unit for turning the wings 105. It may also include, the loads, the wings and analogous associated mechanisms for damping of vibrations in the direction of the rotor axis, if necessary.

Damping of vibrations may be done with manual changing of the operational parameters of the vibrations damping or/and automatically by use of automatic equipment and computer system. The Turbine Generator Vibration Damper System may be installed at presently operating T-G-Ss, as shown in FIG. 2A, and in future

designed T-G-Ss where the features of the bearing housing will be changed correspondingly for use of this method, as shown in FIG. 2B. Parameters V, T and A are current vertical, transverse and axial vibrations at the bearing.

On page 17, first paragraph:

additional weight  $w$ , tuning the system to the damping of vibrations is done by changing the angle  $\alpha$ . Principal scheme of the B-F-L-Ws for removal of vibrations in super-wide diapasons is shown in Fig. 4. For the stated mass of the load  $M$ , also for the stated mass of the wing  $m$  and weight  $w$ , tuning the system to the damping of vibrations is done by changing the length of the wing  $L$  and the angle  $\alpha$ .

On page 18, second full paragraph:

The drawings, as described, are not of the final design (as the final design is to be obtained following the tests) but of the ~~schematical~~ schematic design, that is sufficient, however, for detailed description of how the Turbine Generator Vibration Damper System may work for various applications upon T-G-Ss. Use of various elements and details of the B-F-L-Ws with placement in various directions to the rotor axis of T-G-S, including those with the space constraint and upon the whole rotor cylinders, of preferable placements and fixations of the B-F-L-Ws, of variations of automation of process, etc. is to be offered to manufacturers and customers. Being preferable, they are, however, not mandatory for as long as all other possible B-F-L-Ws and associated

computer systems within frames of this invention are hereby covered when they may still provide a solution to internal vibrations ~~under observation of the Limitations of this invention.~~

**On page 19, second full paragraph:**

Detailed variant of the B-F-L-Ws, installed at the bearing-fulcrum of T-G-S, for removal of vibrations in super-wide diapasons in the direction perpendicularly to rotor axis of T-G-S is shown in Fig. 8. In general, every B-F-LW, named hereinafter as *the single B-F-L-W*, may consist of the following elements:

1. The load, which may be casted as a whole body, if designed, or, as shown, ~~assembled~~ assembled from the parts. An assembling must form the load as a rigid body. See more details in 9.

**On page 20, second to last paragraph:**

8. The computer system. See more details: Figs. 27 and ~~29-31~~. 29-32.

**On page 23, first paragraph:**

B-F-L-Ws are fixed with the eccentricity to the axes of those fixture units.

There are some recommendations given for designing the joint-units and correct fixing the wings (on) to the loads and the joint-units. First of all, designer should be tending to obtain the value of the external  $a$  and/or internal  $e$  eccentricities as little as possible to

avoid the bending momentums in the joint-units. Second, the wider diameter  $b_1$  of the fixture units is the better one, and the eccentricity (if any)  $a_1$  should be less than  $b_1/2$  (see: ~~Fig. 4h~~ Fig. 17, par. 4b). Third, in case of internal eccentricity (such as for the B-F-W-Ss working in the limited space) the shorter wings are preferable (see: Fig. 17, par. 4c). Fourth, the system formed out of the loads  $M$ , the fixture units  $d$  and the joint-units  $R_1, R_2$ , should be so rigid that it may resist the momentum originated from the eccentricity (if any) (see: Fig. 17, pars. 4b, 4c).